

# ROTAPULS

Incrementals Encoders

series

CK58 • CK59 • CK60



CK58-CK59-CK60

## ENVIRONMENTAL SPECIFICATIONS

|                              |                                                                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shock:                       | 100 g, 6 ms (acc. to MIL STD 202F)                                                                                                                                   |
| Vibrations:                  | 10 g, 5-2000 Hz (acc. to MIL STD 202F)                                                                                                                               |
| Operating temperature range: | -20°C+70°C (-4°F +158°F)                                                                                                                                             |
| Storage temperature range:   | -20°C+80°C (-4°F +176°F)<br>(98% R.H.without condensation)                                                                                                           |
| Protection:                  | IP64                                                                                                                                                                 |
| Options:                     | <ul style="list-style-type: none"> <li>• Operating temperature range: -40°C +100°C (-40°F +212°F)</li> <li>• IP65 Protection (3000 rpm max, torque 1 Ncm)</li> </ul> |

## MECHANICAL SPECIFICATIONS

|                                   |                           |
|-----------------------------------|---------------------------|
| Dimensions:                       | see drawing               |
| Shaft hollow:                     | Ø 14, 15 mm               |
| Shaft loading (axial and radial): | 30 N max.                 |
| Shaft rotational speed:           | 6000 rpm max.             |
| Starting torque at 20°C:          | ≤ 1,5 Ncm (typical)       |
| Moment of inertia:                | ~30 gcm <sup>2</sup>      |
| Bearings life:                    | 10 <sup>9</sup> rev. min. |
| Weight:                           | ~ 0,4 kg (14,1 oz)        |

## ELECTRICAL SPECIFICATIONS

|                                             |                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STD pulse rate<br>(other PPR upon request): | 2-4-5-6-10-12-15-16-18-20-24-25-30-35-36-39<br>40-45-50-60-64-70-80-90-100-120-122<br>125-127-142-150-180-200-216-236-240-250<br>254-256-267-270-300-314-360-375-400-410<br>433-435-471-500-512-600-625-628-635-720<br>750-784-800-875-900-946-1000-1024-1068<br>1099-1200-1250-1270-1440-1500-1800-2000<br>2048-2250-2400-2500-3000-3600-4000-4096<br>5000-6000-9000-10000 |
| Power supply:                               | +5V±5%, +10V +30V,+5V +30V                                                                                                                                                                                                                                                                                                                                                  |
| Output circuits:                            | NPN o.c., PNP o.c., Push-Pull, Line Driver, PP/LD                                                                                                                                                                                                                                                                                                                           |
| Output current (per channel):               | 40 mA max.                                                                                                                                                                                                                                                                                                                                                                  |
| Output frequency:                           | 100 kHz max.                                                                                                                                                                                                                                                                                                                                                                |
| Input current:                              | 70 mA max.                                                                                                                                                                                                                                                                                                                                                                  |
| Protection:                                 | against inversion of polarity (except +5V version)<br>outputs are protected against short-circuit (except Line Driver version)                                                                                                                                                                                                                                              |
| Optoelectronic life:                        | 100.000 hrs min.                                                                                                                                                                                                                                                                                                                                                            |
| Option:                                     | • Output frequency up to 300 kHz max.                                                                                                                                                                                                                                                                                                                                       |

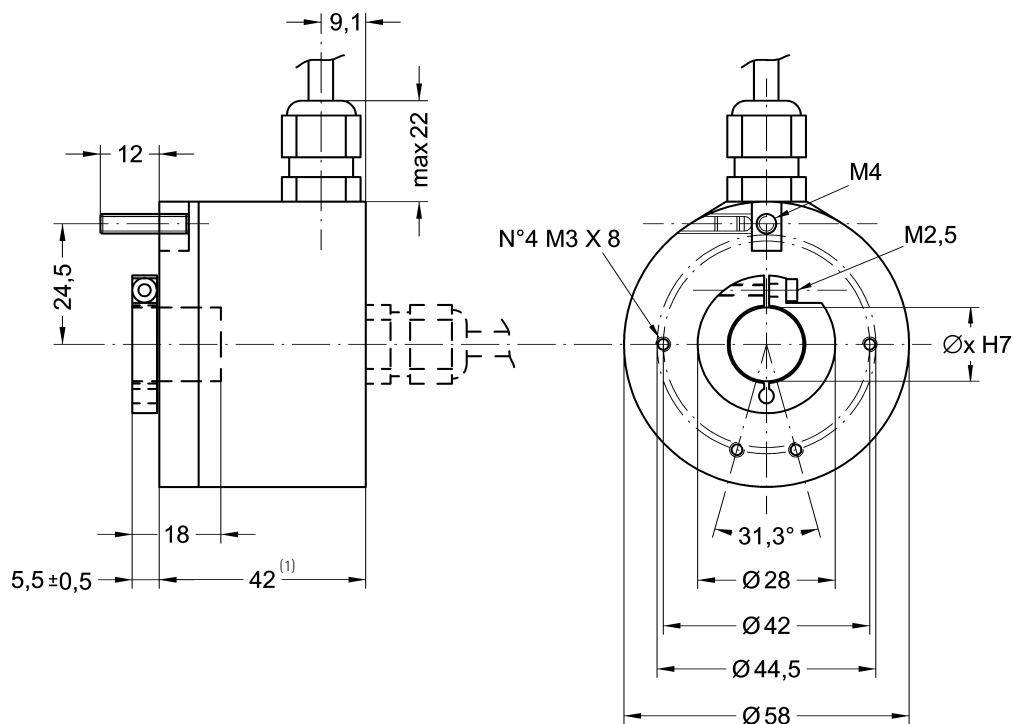
## MATERIALS

|               |                               |
|---------------|-------------------------------|
| Flange:       | non corroding                 |
| Housing:      | non corroding                 |
| Bearings:     | ABEC 5                        |
| Shaft:        | stainless steel, non-magnetic |
| Light source: | GaAl diodes                   |

## ACCESSORIES

|         |                             |
|---------|-----------------------------|
| E7MLS:  | 7 pin MIL mating connector  |
| E10MLS: | 10 pin MIL mating connector |
| EDE9S:  | 9 pin DSub mating connector |
| BR1:    | Reducing sleeves            |

Specifications subject to changes without prior notice



(1) Mechanical dimensions with connector output see on page 64

CK58

#### ORDERING CODE

XXXX - X - XXXX X

#### SERIES

CK58 - CK59\* - CK60\*

\* Dimensional drawing on page 75

#### OUTPUT CIRCUITS

NPN o.c. **N**  
PNP o.c. **P**  
Push-Pull **Y**  
Line Driver AD26LS31 or eqv. **L**  
PP/LD universal circuit **H**

#### PULSE RATE (PPR)

See electrical specifications

#### OUTPUT SIGNALS CONFIGURATION

Bidirectional **B**  
Bidirectional with index pulse **Z**

#### ELECTRICAL CONNECTIONS

|          |                       |          |                             |
|----------|-----------------------|----------|-----------------------------|
| <b>N</b> | Normal output         | <b>F</b> | 5 wires cable, 1m. (3.3 ft) |
|          |                       | <b>D</b> | 7 pin IP65 MIL connector    |
| <b>C</b> | Complementary outputs | <b>U</b> | 8 wires cable, 1m. (3.3 ft) |
|          |                       | <b>P</b> | 10 pin IP65 MIL connector   |

see on page 59-60

#### SUPPLY VOLTAGE VS OUTPUT CIRCUIT

|                                         |          |
|-----------------------------------------|----------|
| +5V±5% (L output circuit)               | <b>1</b> |
| +10V÷ +30V (N, P and Y output circuits) | <b>2</b> |
| +5V÷ +30V (PP/LD universal circuit)     | <b>4</b> |

#### SHAFT DIAMETER

|           |       |
|-----------|-------|
| <b>14</b> | 14 mm |
| <b>15</b> | 15 mm |

Reducing sleeves  
see on page 75

#### ADDITIONAL CODE (indicate only if necessary)

X X X X X X

**C** Inline connector DSub 9 pin

**Lx** Cable length on request  
Ex.: L4 = 4 meters (13.2 ft)  
L7 = 7 meters (23.0 ft)

**K** Operating temperature range:  
-40°C + 100°C (-40°F + 212°F)

**W** Output frequency up to 300 kHz

**P** IP65 Protection

**R** Side mount cable or connector